

## ABSTRACT

**Objectives.** This study obtained comprehensive health information from newly admitted correctional inmates.

**Methods.** Interviews were conducted with 1198 inmates on day 3 of their incarceration.

**Results.** Interviewers found a high prevalence of chronic medical and mental health issues, limited access to health care, high rates of infections and sexually transmitted diseases, substantial substance abuse, other unhealthy behaviors and violence, and a strong desire for help with health-related problems.

**Conclusions.** The data document the need to apply the public health approach to correctional health care, including detection and early treatment of disease, education and prevention to facilitate health and behavior change, and continuity of care into the community. (*Am J Public Health.* 2000;90:1939–1941)

# Self-Reported Health and Prior Health Behaviors of Newly Admitted Correctional Inmates

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More than 2 million individuals, or 0.7% of the US population, are incarcerated in county, state, and federal correctional facilities.<sup>1</sup> Including individuals on probation or parole, 6 million persons, or about 3% of all US adults, are under the jurisdiction of corrections systems.<sup>1</sup> Direct expenditures for corrections tripled over a decade to reach \$40 billion in 1995.<sup>2</sup>

Correctional institutions have long been seen as reservoirs of physical and mental illness and of psychosocial problems, all of which flow back into the community as inmates are released.<sup>3</sup> However, only more recently have medical and correctional communities begun to recognize the full extent to which mental problems, substance abuse disorders, and communicable diseases are concentrated in the correctional system and the public health opportunity this presents.<sup>4–11</sup>

To address these issues, the Hampden County Correctional Center (HCCC) over the past 5 years has been developing a systematic public health model of correctional medical care emphasizing detection, early and effective treatment, patient education, prevention, and continuity of care. A key feature of the system is the sharing of correctional health care with community health agencies through physicians and case managers dually based in the correctional center and in the communities to which inmates return on release.<sup>12</sup>

HCCC and the University of Massachusetts School of Public Health and Health Sciences in Amherst conducted a baseline health study of the HCCC correctional population to better elucidate the extent of inmate preincarceration health problems, health facility use, and health-related risky behaviors.

## Methods

HCCC is a medium-security correctional center located in western Massachusetts that houses 1800 inmates, including persons awaiting court appearances and sentenced prisoners. Approximately one third of the inmates remain 3 days or less, one third stay for 4 to 90 days, and one third stay for 91 days to 2 years. Successive inmates newly admitted to HCCC over a 5-month period were interviewed on the third day of their incarceration concurrently with, but separately from, their clinical examination.

The interviews were conducted in a private room in the medical facility by trained, ethnically diverse interviewers employed specifically for this purpose. This context was chosen to maximize the likelihood of disclosure of highly personal and criminally liable behavior. Inmates were read an informed consent statement and were asked if they wished

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**Note.** A copy of the study questionnaire and a complete set of tables for the data reported here may be obtained from the lead author.

to participate; the statement indicated that any information they provided would be medically confidential and that refusal to participate would in no way negatively affect their incarceration experience. Inmates were also told that the information they provided would be part of the medical record, would be used for program planning purposes, and would be reported only in aggregate form.

The 15-minute interview of 130 items was composed of several sections containing questions on demographic and household data; health status and health problems; medical facility use; tobacco, alcohol, and drug use; HIV, other sexually transmitted infections, and sexual behavior; other health-related habits; and prior jail time; an additional component on women's health and physical abuse was included. The interview was designed for easy administration, ready comprehension, and simple data entry. The interviews were edited, open-ended questions were coded, and the data were double entered for accuracy into Epi Info (Centers for Disease Control and Prevention, Atlanta, Ga).

## Results

Of the inmates initially admitted to HCCC during the study period, 70% remained in the facility for the third-day medical examination. For various administrative reasons, 20% of the remaining inmates were not interviewed. The interview completion rate was not significantly different by race or age but differed for men (79%) and women (96%). Data are reported separately for 1082 men (90%) and 116 women (10%) when their responses differed.

### Demographic Data

Half of the inmates were younger than 30, and the racial/ethnic group distribution was Hispanic (40%), non-Hispanic White (33%), and African American (27%). One third of the inmate households included children younger than 12 years. Fewer than half of the inmates had completed high school. Wages were the major income source for both sexes, but women relied more widely on a variety of income sources than did men, especially regarding welfare payments.

### Health Status and Health Problems

Half of all the men and women rated their health as only good, fair, or poor. Other than substance abuse, the 4 most frequently reported health concerns were teeth/gums, bone/joints, back/neck, and emotional/mental problems. For the 20 health concerns asked about, women reported higher rates than did the men, with

differences in the emotional/mental problems being the most striking at 53% vs 20%. Approximately one sixth of both sexes had a physical problem that kept them from normal activities during the past 12 months. About a quarter of the men and half of the women were interested in having the medical staff help them with a health-related problem, with both sexes indicating a very high level of interest in such help.

### Medical Facility Use

About one third of the men and women had not gone to a medical provider during the past 12 months when they needed to because of the cost. But nearly half of the men and almost two thirds of the women obtained health care at an emergency room during that same time. During the past 12 months, 15% of the men and 25% of the women had visited 1 or more of the 4 community health centers affiliated with HCCC. When health care was obtained, it was paid for primarily with various forms of public assistance.

### Substance Abuse

The inmates reported extensive abuse of tobacco, alcohol, and drugs before their incarceration. Some three quarters of both sexes were cigarette smokers, with more than 70% of those smoking a pack or more per day.

Two thirds of the men and almost 60% of the women had consumed alcohol during the 3 months before incarceration; one third of the drinkers consumed alcohol daily, and almost three quarters of the drinkers reported regular binge drinking. Sex differences were apparent in that women drinkers were significantly more likely than men to report having a drinking problem (59% vs 36%) and to indicate that they wanted help with their problem (51% vs 35%).

More than two thirds of the inmates admitted to having ever used drugs, with about 80% of those having used drugs in the last 3 months before incarceration. Women reporting drug use were twice as likely as men (24% vs 11%) to have ever shared needles and also were significantly more likely (70% vs 50%) to have had confrontations with the law because of their drug use, to admit to having a drug problem, to have received prior drug treatment, and to want help with their drug problem.

### Sexually Transmitted Infections and Sexual Behavior

Women were at least twice as likely as men to report that a medical professional had told them that they had chlamydia, gonorrhea, syphilis, genital warts, or trichomoniasis. HIV

testing rates were high for both sexes—two thirds of the men and 86% of the women reported having been tested. Most of both sexes considered themselves to be at low or no risk for contracting HIV, but a significantly greater proportion of men fell into this category than women.

### Other Health-Related Behaviors

Among the other risky health behaviors queried, women were significantly more likely to report having tried to kill themselves (39% vs 13%). A third of both sexes reported kicking, punching, or hurting someone in the past 12 months.

### Women's Health Issues

Almost half of the women reported being physically abused in the past 12 months, with the majority abused by a boyfriend or spouse. Of the three quarters of the women who reported a current partner, 20% felt unsafe with the partner. Seventeen percent of the women reported being stalked by a prior partner. One third of the women were in the sex trade and/or exchanged sex for food, drugs, or money.

## Discussion

This study covered a comprehensive range of health and health-related behaviors. Our data showed that newly incarcerated correctional inmates have a high prevalence of health issues at admission, prior limited access to health care, very high rates of disease and unhealthy behavior, and a strong desire for help in improving their health and in changing health-related behavior. The questionnaire results confirmed the significant need for medical, mental, dental, and substance abuse health care, with additional prevention and education programs to modify risky health behavior. Generalization of the data could be limited because they describe the experience of 1 correctional center, but we found our data to be consistent with data from other reports in the literature covering similar areas as this study.<sup>13-30</sup>

It should be noted that the health and behavioral information collected from the inmates was self-reported and not independently validated by us. However, the extremely high rates of such behavior reported by the inmates do document extensive problems.

The public health community has a unique opportunity to confront this reservoir of disease and health problems in the correctional population in a comprehensive manner that will ultimately benefit the whole community. Intake health assessment as such can provide

a sentinel function for emerging epidemics or antecedent behavior trends, as well as reflect community-level changes in factors such as mental health and substance abuse treatment resources. Most important, active health intervention in jail can have a significant direct effect on health in the communities to which most of these inmates quickly return—not only reducing the transmission of communicable disease but also advancing health promotion at the family and community level. General health education and planning for continuity of care after discharge for inmates with chronic diseases can help reduce inappropriate use of emergency medical facilities, help these persons maintain health gains, and lower the likelihood of recidivism. Cumulatively, the above changes can pose a significant financial and social benefit to the community.

The next steps are to enhance the public health model of correctional health care at HCCC and then to evaluate its effectiveness by following up inmates after discharge to assess the effect of this model program on their health care use patterns and health-associated behavior. A related phase will estimate cost-benefit aspects of the broad program for both HCCC and the larger community. □

## Contributors

T. J. Conklin, T. Lincoln, and R. W. Tuthill were directly involved in the creation of the comprehensive baseline interview on which this report is based. R. W. Tuthill took major responsibility for the data collection and data analysis phases, but T. J. Conklin, T. Lincoln, and R. W. Tuthill all participated in the interpretation of the results. T. J. Conklin, T. Lincoln, and R. W. Tuthill contributed to the review of the literature, with T. Lincoln taking the lead in this area. T. J. Conklin wrote the initial draft of the introduction and discussion; the data analysis and the tables were mainly the responsibility of R. W. Tuthill, with revisions suggested by the other authors; and the final brief was ultimately very much a joint product.

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## References

1. Beck AJ. Prisoners in 1999. In: *Bureau of Justice Statistics Bulletin*. Washington, DC: US Dept of Justice; August 2000. NIJ 183476.
2. Justice Employment and Expenditure Extracts, Bureau of Justice Statistics, US Dept of Justice. Available at: <http://www.ojp.usdoj.gov/bjs>. Accessed November 23, 1999.
3. Whalen RP, Lyon JJA. Medical problems of 500 prisoners on admission to a county jail. *Public Health Rep*. 1962;77:497–502.
4. Glaser JB, Greifinger RB. Correctional health care: a public health opportunity. *Ann Intern Med*. 1993;118:139–145.
5. Torrey EF. Editorial: jails and prisons—America's new mental hospitals. *Am J Public Health*. 1995;85:1611–1613.
6. Steadman HJ, Morris SM, Dennis DL. The diversion of mentally ill persons from jails to community-based services: a profile of programs. *Am J Public Health*. 1995;85:1630–1635.
7. Krane KM, Parece MS, Miles JR. Intervening among the invisible population: the CDC examines correctional health care. *Corrections Today*. April 1998:122–124.
8. Hammett TM. *Public Health/Corrections Collaboration: Prevention and Treatment of HIV/AIDS, STDs, and TB*. Washington, DC: National Institutes of Justice and the Centers for Disease Control and Prevention; July 1998. NIJ 169590.
9. Hammett TM, Harmon P, Rhodes W. The burden of infectious disease among inmates and releasees from correctional facilities. In: *The Health Status of Soon to Be Released Inmates*. Vol 2. Chicago, Ill: National Commission on Correctional Health Care; May 2000. Report submitted to National Institutes of Justice.
10. Hammett TM, Gaiter JL, Crawford C. Reaching seriously at-risk populations: health interventions in criminal justice settings. *Health Educ Behav*. 1998;25:99–120.
11. May JP, Lambert WE. Preventive health issues for individuals in jails and prisons. In: Puisis M, Anno BJ, Cohen RL, et al, eds. *Clinical Practices in Correctional Medicine*. St Louis, Mo: Mosby Inc; 1998:259–274.
12. Conklin TJ, Lincoln T, Flanigan TP. A public health model to connect correctional health care with communities. *Am J Public Health*. 1998;88:1249–1250.
13. Novick LF, Della Penna R, Schwartz MS, Remmlinger E, Lowenstein R. Health status of the New York City prison population. *Med Care*. 1977;15:205–216.
14. Raba JM, Obis CB. The health status of incarcerated urban males: results of admission screening. *J Jail Prison Health*. 1983;3:6–24.
15. Stewart AL, Greenfield S, Hays RD, et al. Functional status and well-being of patients with chronic conditions: results of the Medical Outcomes Study. *JAMA*. 1989;262:907–913.
16. Decker S, Rosenfeld R. Intravenous drug use and the AIDS epidemic: findings from a 20-city sample of arrestees. *Crime Delinquency*. 1992;38:492–509.
17. Longshore D, Hsieh S, Anglin MD. Ethnic and gender differences in drug users' perceived need for treatment. *Int J Addict*. 1993;28:539–558.
18. Teplin LA. Psychiatric and substance abuse disorders among male urban jail detainees. *Am J Public Health*. 1994;84:290–293.
19. Shetterly SM, Baxter J, Mason LD, Hamman RF. Self-rated health among Hispanic vs. non-Hispanic white adults: the San Luis Valley Health Aging Study. *Am J Public Health*. 1996;86:1798–1801.
20. Lincoln T, Lynch V, Conklin TJ. Skin anergy testing and tuberculosis surveillance. *J Correctional Health Care*. 1997;4:139–153.
21. Peters RH, Strozier AL, Murrinn MR, Kearns WD. Treatment of substance-abusing jail inmates: examination of gender differences. *J Subst Abuse Treat*. 1997;14:339–349.
22. Seale M. Prevalence of medical conditions in a large urban jail. Paper presented at: National Conference on Correctional Health Care; November 3, 1998; Long Beach, Calif.
23. Alemagno SA, Wolfe SA, Pace RB, Shobert RL, Butts JM. Managed public health in a county jail [letter]. *Am J Public Health*. 1998;88:1265.
24. Henson KD, Longshore D, Kowalewski MR, Anglin MD, Annon K. Perceived AIDS risk among adult arrestee injection drug users in Los Angeles County. *AIDS Educ Prev*. 1998;10:447–464.
25. Seymour C. Children with parents in prison: child welfare policy, program, and practice issues. *Child Welfare*. 1998;77:469–493.
26. Feinstein RA, Lampkin A, Loris CD, Klerman LV, Maisiak R. Medical status of adolescents at time of admission to a juvenile detention center. *J Adolesc Health*. 1998;22:190–196.
27. Epstein JF, Gfroerer JC. *Changes Affecting NHSDA Estimates of Treatment Need for 1994–1996*. Washington, DC: Office of Applied Studies, Substance Abuse and Mental Health Services Administration; 1998.
28. Knight K, Hiller ML, Simpson DD, Broome KM. The validity of self-reported cocaine use in a criminal justice treatment sample. *Am J Drug Alcohol Abuse*. 1998;24:647–660.
29. Altice FL, Mostashari F, Selwyn PA, et al. Predictors of HIV infection among newly sentenced male prisoners. *J Acquir Immune Defic Syndr Hum Retrovirol*. 1998;18:444–453.
30. Amaro H. An expensive policy: the impact of inadequate funding for substance abuse treatment. *Am J Public Health*. 1999;89:657–659.